

ANNUAL REPORT
Department of Public Health.

CITY OF NEWARK,
NEW JERSEY.

1901.

INDEX.

Antitoxin and Culture Stations.....	9
Area of City.....	83
Births (Table 1).....	67
Clinics at City Dispensary.....	10
Deaths in Institution (Table 4).....	70
District Physicians.....	8
Employees.....	5-6-7
Marriages (Table 2).....	68
Nativity of Decedents (Table 3).....	69
Officers.....	3
Report of Bacteriological Division.....	43
" " Bureau of Contagious Diseases.....	31
" " Chemist.....	57
" " Finance.....	23-29
" " Health Officer.....	12
" " Meteorologist.....	73
Standing Committees.....	4
Wells Recorded (Table 5).....	71

ANNUAL REPORT

Department of Public Health

COMPLIMENTS OF

DAVID D. CHANDLER,

HEALTH OFFICER.

1901

BAKER PRINTING COMPANY,
251 Market Street,
Newark, N. J.

1902



ANNUAL REPORT

Department of Public Health

CITY OF NEWARK, N. J.

1901

BAKER PRINTING COMPANY,
251 Market Street,
Newark, N. J.

1902

BOARD OF HEALTH.

DR. H. C. H. HEROLD, PRESIDENT.....	75 Congress Street
MR. M. STRAUS.....	1085 Broad Street
MR. J. A. FURMAN.....	65 South Tenth Street
MR. MATTHEW T. GAY.. . . .	47 Lincoln Avenue
DR. C. M. ZEH.....	15 Central Avenue
DR. D. L. WALLACE.....	202 Clinton Avenue
DR. F. W. BECKER.....	478 Clinton Avenue
DR. W. S. DISBROW.. . . .	151 Orchard Street
MR. C. EDGAR SUTPHEN.....	64 Elizabeth Avenue

HEALTH OFFICER.

MR. DAVID D. CHANDLER 74 N. Seventh Street

STANDING COMMITTEES OF THE BOARD OF HEALTH.

SANITATION.

DR. DISBROW,	DR. BECKER	DR. ZEH,
MR. FURMAN,	MR. SUTPHEN	

FINANCE

MR. STRAUS,	DR. DISBROW,	MR. GAY
-------------	--------------	---------

LAWS AND ORDINANCES.

DR. WALLACE,	MR. FURMAN,	MR. SUTPHEN
--------------	-------------	-------------

RULES

MR. SUTPHEN,	MR. GAY,	MR. STRAUS
--------------	----------	------------

APPOINTMENTS

MR. GAY,	MR. FURMAN,	MR. SUTPHEN
----------	-------------	-------------

SUPPLIES

MR. FURMAN,	DR. DISBROW,	DR. BECKER
-------------	--------------	------------

CITY HOSPITAL.

DR. ZEH,	MR. STRAUS,	MR. GAY,
DR. BECKER,	MR. SUTPHEN,	

TRAINING SCHOOL

DR. BECKER,	DR. ZEH,	DR. DISBROW,
DR. WALLACE,	DR. HEROLD,	

EMPLOYEES OF THE BOARD OF HEALTH.

OFFICE DIVISION

JOHN J. GREENE...	...Clerk Bureau Contagious Diseases
	54 Winthrop Street.
EUGENE W. BELLAR...	...Clerk Sanitary Division
	45 Congress Street.
MISS MARIE PERIER	Stenographer to Health Officer
	372 High Street.
EDWARD E. WORL, M. D.	Supt. Bureau Contagious Diseases
	271 High Street.
HERBERT B. BALDWIN	Chemist
	Nos. 9 and 11 Franklin Street.
GEORGE C. SONN	Metereologist
	285 Belleville Avenue

BACTERIOLOGICAL DIVISION.

DR. R. N. CONNOILY	Bacteriologist
	City Hospital Building
DR. R. C. RIBBANS	Assistant Bacteriologist
	15 Warren Street
ERNEST L. SKILLMAN	Laboratory Assistant
	106 Wickliffe Street
HERMAN VOLK	Culture Collector
	108 McWhorter Street

CITY DISPENSARY

WILLIAM A. SMITH	Apothecary
	21 Court Street
HENRY A. OLTSMANN	Assistant Apothecary
	108 Orange Street.
WILLIAM M. GOULD	Dentist
	86 Halsey Street.

DISTRICT PHYSICIANS.

WILLIAM SCHOPFER	43 Read Street
J. SAMUEL STAGE	95 Jefferson Street
HENRY W. NOLTE....	255 Malberry Street
MATTHEW T. GAFFNEY	211 Plane Street
JAMES A. HOFFMAN	50 Waverly Avenue
SAMUEL H. BALDWIN	473 Clinton Avenue
VINCENT NAGER	23 Beacon Street
WILLIAM GAUCH..	199 High Street
CHARLES W. TITUS	126 North Seventh Street
HUGH M. HART ..	16 Gouverneur Street
FRED'K W. HAGNEY	67 Pennsylvania Avenue

SANITARY DIVISION HEAT INSPECTORS

WERNER RUNGE	130 Union Street
CHARLES WOLZ.....	81 Ferry Street

PLUMBING INSPECTORS.

JOHN B. SULLIVAN.....	204 Second Street
WILLIAM H. GRIER...	37½ Third Street
JOSEPH A. SMITH.....	47 Bleeker Street

SANITARY INSPECTORS

THOMAS E. FREEMAN.....	31 Waverly Avenue
LOUIS H. BRIDGEM.....	59 Court Street
WILLIAM H. YOUNG.....	62 Hunterdon Street
ANDREW J. BRADY.....	17 Howard Street
JOHN WRIGHT	70 Arlington Street
MORRIS SEIDL	411 South Eighth Street
FORMAN J. REYNOLDS..	182 Summit Street
OTTO B. SCHALK.....	407 Bergen Street
CHARLES E. BURKE.....	125 Union Street
BERNARD CAHILL...	311 Warren Street
HUBERT O'ROURKE.....	19 Avon Place
MICHAEL HELMIAEDTE	335 Mulberry Street
ANTONIO PANZERA	66 Madison Street
MICHAEL FITZSIMMONS	292 Hunterdon Street
JOHN F. NEARY	27 New Street

MILK INSPECTOR

WILLIAM H. LYLE.....227 South Sixth Street

DISINFECTING CORPS

SAMUEL KNOTT, *Chief*..... 279 Plane Street

JOHN L. BALL.....45 Nichols Street

WILLIAM PARKER.... .233 Academy Street

HIRAM R. STEWART.....67 Wright Street

LEONARD GILLEN.....82 E Park Street

THOMAS F. NEWTON.....141 Clifton Avenue

RICHARD J. CORBLEY 43 Providence Street

REGINALD RAYMOND 237 Peshine Avenue

FRANK PETRIDGE.....*Orderly at Isolation Hospital*
Sherman Avenue and Concord Street

CHRISTINA SCHOEMER *Janitress*
312 New York Avenue.

DISTRICT PHYSICIANS, 1901.

- 1st DISTRICT—DR. W. SCHOPFER.—District Lines: Polk Street, Lafayette Street, Hamburg Place, Thomas Street and Passaic River.
- 2d DISTRICT—DR. J. S. STAGE.—District Lines: Polk Street, Lafayette Street, Hamburg Place, Thomas Street, Newark Bay, City Line, Avenue "D," Pacific Street, Clifford Street, Tichenor Street and Passaic River.
- 3d DISTRICT—DR. H. W. NOLTE.—District Lines: Jefferson Street, Clifford Street, Pacific Street, Tichenor Street, Broad Street, Market Street, Railroad Place and Passaic River.
- 4th DISTRICT—DR. M. GANNETT.—District Lines: Railroad Place, Market Street, Broad Street, Lincoln Park, Spruce Street, High Street, Central Avenue, Fulton Street and Passaic River.
- 5th DISTRICT—DR. J. A. HOFFMAN.—District Lines: High Street, Warren Street, Newark Street, Richmond Street, Clark Street, Clifford Street, Spruce Street.
- 6th DISTRICT—DR. S. H. BALDWIN.—District Lines: Charlton Street, Springfield Avenue, Fifteenth Avenue, City Line, Lyons Avenue, Clinton Place, Hawthorne Avenue, Ridgewood Avenue, Livingston Street, Eighteenth Avenue and Spruce Street.
- 7th DISTRICT—DR. V. NAGER.—District Lines: Fifteenth Avenue, Springfield Avenue, Rankin Street, Richmond Street, Newark Street, Warren Street, Central Avenue and City Line.
- 8th DISTRICT—DR. W. GAUCH.—District Lines: High Street, Clifford Street, Central Avenue, Newark Street, Tichenor Street, Clifford Street and Warren Street.
- 9th DISTRICT—DR. C. W. TITUS.—District Lines: Central Avenue, Warren Street, Hudson Street, Central Avenue, Norfolk Street, Clifton Avenue, Bloomfield Avenue and City Line.
- 10th DISTRICT—DR. H. M. HART.—District Lines: Fulton Street, Central Avenue, High Street, Eighth Avenue, Clifton Avenue, Bloomfield Avenue, City Line and Passaic River.
- 11th DISTRICT—DR. J. M. GANNETT.—District Lines: Central Avenue, Pacific Street, Tichenor Street, Lincoln Park, Spruce Street, Eighteenth Avenue, Livingston Street, Ridgewood Avenue and City Line.

ANTITOXIN AND CULTURE STATIONS.

Established by the Board of Health for the Collection of Cultures and Distribution of Antitoxin.

D BRAMLEY	110 Union Street.	1397A	N Y. & N J. Tel. Co.
F. RODEMAN	77 Ferry Street	1309B	"
OTTO VON GEHREN	200 Ferry Street.	2092A	Bowery
GROSSENBECK & REICHEL	28 Bowery Street.	2080	Bowery
LINNETT BROS	77 Lincoln Park.	1345A	"
C. HOLZHAUER	787 Broad Street	1312	"
FIELJING	925 Broad Street	1312	"
PETTY	Prudential Building	604	"
GREENLEAF	579 Broad Street.	1568	"
H F. JACKSON	482 Broad Street	1536B	"
W SCUDDER	95 Belleville Avenue	1579	"
A SCHURK	289 Belleville Avenue	1506	"
H WELLES	190 Washington Avenue	1349F	"
J BETZLER	503 Orange Street.	2097	Roseville
AVERY & CO.	291 Central Avenue.	1504	"
C MOLL	166 Central Avenue.	1319	"
L L STAEBEL	169 South Orange Avenue	1339	"
R STAEBLER	166 Springfield Avenue.	1447	"
BRIDENBACH	167 Belmont Avenue	8323	"
E REICHEL	362 Springfield Avenue	1534	"
D D BELDON	315 South Orange Avenue	1487A	"
F F CRISSEY	340 Bank Street	1301	"
S EPSTEIN	105 Orange Street.	1380	"
W E MOORE	307 Clinton Avenue	1312F	"

CLINICS AT CITY DISPENSARY.

MEDICAL.

MALE AND FEMALE

Every day, excepting Sunday, at 9 A. M.—District Physicians in attendance

SKIN

Tuesdays and Fridays at 10 A. M.—DRS. H. J. F. WALLHAUSER, Chief, and DR. P. C. RIBBANS, Assistant.

GYNÆCOLOGICAL

Tuesdays and Fridays at 3 P. M.—DR. E. Z. HAWKES, Chief, and DR. W. GAUCH, Assistant.

CHILDREN'S

Mondays, Wednesdays and Fridays at 10 A. M.—DR. R. COE, Chief, and DR. PRICE, Assistant.

GENITO URINARY CLINIC

Tuesdays and Saturdays at 10 A. M.—DR. J. W. WILSON, Chief, and DR. T. HOPPER, Assistant.

SURGICAL.

Mondays, Tuesdays, Wednesdays, Thursdays and Fridays at 12 M.—DR. W. BUERMAN, Chief, and DRS. M. DANZIS and L. WEISS, Assistants

DENTIST

Mondays, Wednesdays and Fridays at 1 P. M.—DR. W. M. GOULD

Open on Sundays and Holidays from 9 to 12 for prescriptions.

ANNUAL REPORT
OF THE
HEALTH OFFICER
FOR THE YEAR, 1901.

ANNUAL REPORT

OF THE

HEALTH OFFICER

FOR THE YEAR 1901.

*To the Honorable, the Board of Health, of the City of
Newark, New Jersey.*

GENTLEMEN—I have the honor to herewith present to you my report of the workings of the various divisions of the Department of Public Health, together with a report of the Superintendent of the Bureau of Contagious Diseases, Bacteriologist and Chemist of the Board, for the year ending December 31st, 1901.

VITAL STATISTICS.

The total number of births reported during the year was 6,016. Of this number 5,924 were white and 92 colored; 3,175 were male and 2,837 were female, and the sex of four was not stated, 5,975 were legitimate and 41 were illegitimate.

The birth rate per thousand of the population is 24.06, and exceeds the death rate for the year 4.74 per 1,000.

There were 324 still births, or 1.29 per thousand of the population (See table 1).

MARRIAGES.

There were recorded 2,441 marriages. Of this number 2,360 were white and 75 colored. This represents a rate of 9.71 per thousand, which must be considered below the actual rate. (See table II.)

DEATHS.

There were reported during the year 4,806 deaths, which represents a death rate of 19.22 per thousand. Of these 3,200 were native born, and 1,560 were foreign born, and in 40 cases the nativity was not stated. Of this number 4,607 were white and 192 colored and two Mongolians, and five not stated.

The social state of decedents was as follows:

Single	2,420
Married	1,536
Widow	458
Widower	246
Not Stated	146
Total	4,806

One thousand and thirty eight deaths occurred in institutions and public places (See table IV).

The report of the Sanitary requirements of the City and the needs of the Department, which are most urgent, in brief, are as follows:

First. A Public Disinfecting Station.

Second. Isolation Hospital.

Third. Separation and Collection of Garbage.

Fourth. A Public Abattoir.

Fifth. An Emergency Hospital and Ambulance Service.

Sixth. A suitable building wherein the Divisions of the Department could be concentrated under one roof.

SANITARY DIVISION.

The work of this division is performed by fifteen inspectors appointed by the Board, each having a separate district under his supervision, for which he is held responsible.

In performing these duties, I wish to state that their work for the year has been done in a painstaking and creditable manner.

CONSOLIDATED REPORT OF NUISANCES FOR THE YEAR
ENDING DECEMBER 31, 1901.

Inspections from complaint book.....	2,395
Inspections from complaint book, verified . . .	1,969
Inspections from complaint book, no cause . . .	426
Number of original inspections made.... .	10,655
Total number of inspections made.... .	13,050
Number of written notices served. . . .	1,064
Total number of abatements .. .	2,093
Number of verbal notices..... .	5,959
Number of abatements from same	5,087
Number of hours in court. . . .	159

DETAILED REPORT

Wells inspected	53
Wells closed	5
Sewer connections ordered	482
Sewer drains inspected	1,584
Cesspools inspected	261
Alleys inspected	521
Alleys filthy	78
Alleys need repairing	60
Streets need cleaning	71
Areas dirty	681
Cellars dirty	1,175
Ashes accumulation	788
Garbage accumulation	569
Drainage surface	39
Lots filthy	140
Lots stagnant water	59

Manure accumulation	551
Defective water pipes	100
Houses filthy	51
Houses unfit for habitation	1
Slaughter houses inspected	30
Houses unprovided with privy vaults or water closets	15
Houses with no water supply	123
Houses with roofs leaking	48
Hydrants defective	59
Privy houses filthy	239
Privy vaults full	421
Cesspools full ..	268
Privy houses dilapidated	2
Privy vaults ordered reconstructed	12
Privy vaults ordered out.	8.3
Yards inspected ..	11,518
Yards filthy ..	1,278
Plumbing defective	477
Water closets defective	615
Stables inspected	370
Reinspections	7,975
Total number of nuisances.	8,702
House to house inspections.	444
Permits granted to clean privy vaults and cesspools	196
Privy vaults cleaned	180
Cesspools cleaned	16

During the year one house was found to be unfit for habitation, and was placed in good sanitary condition.

PLUMBING DIVISION.

This division is under the supervision of three practical plumbers, and the work performed by them has been satisfactorily demonstrated.

The following is a summary of the work of the division for the year 1901:

Plans approved	1,176
Plans rejected	166
Water tests made	1,566

Plumbing inspections made	1,149
Fire plumbing inspections made	1,48
Peppermint tests made	126
Sewer permits granted	1,297
Cesspool permits granted	62
Privy vault permits granted	24
Relay sewer permits granted	74
Violations served	4
Violations complied with	4
Hours in court	2

MEAT AND LIVE STOCK DIVISION.

This division is under the supervision of two Inspectors; one a Veterinarian, whose duty it is to look after the slaughter houses and wholesale meat depots the other an experienced butcher, whose duty it is to visit all the public and private meat and vegetable markets.

The following is a summary of the work of the division for the year 1901:

Cattle	14,391
Calves	19,303
Sheep	27,077
Hogs	3,831
Total	57,402

CONFIRMED

Calves	20
Carcass of Beef	1

BUTCHER SHOPS VISITED

Number of visits	6,113
Number of carcasses of beef inspected	234,8
Number of lambs and sheep	81,829
Number of calves	10,082
Number of swine	1,250

CONDEMNED

Potatoes (bbls)	9
Pig tails (lbs)	100
Peas (bushels)	2

Five complaints were attended to and adjusted.

In addition to the above Centre Market has been visited daily.

MILK INSPECTOR'S REPORT.

The report of the Milk Inspector, together with the number of cow stables inspected and animals licensed, for the year 1901, is as follows:

Number of milk wagons halted for inspection....	2,292
Number of cans of milk inspected on same.	5,287
Number of lactometer tests	2,310
Number of stores visited .	2,897
Number of cans of milk inspected	2,646
Number of lactometer tests	1,777
Number of samples found suspicious and sent to chemist for analyses ..	293
Number of samples of milk taken for bacteriological examination	
Number of samples of mineral water taken for bacteriological examination	15
Number of samples of mineral water taken for chemical examination	15
Number of cow stables inspected .	154
Number of animal permits issued	162
Number of animals licensed	8,7

DISINFECTING CORPS.

This division consists of a Chief and seven Inspectors detailed for that purpose.

The work of this division is all that can be desired under the existing conditions.

The following is a summary of the work performed during the year 1901:

CASES

Diphtheria, including Membranous Croup (placarded) ..	1 151
Scarlet Fever (placarded) ..	641
Typhoid Fever (not placarded)	300
Smallpox (not placarded) ..	386
Total	2,478

DISINFECTIONS

Diphtheria	1,115
Scarlet Fever	567
Phthisis	409
Smallpox	353
Special	185
Total number of houses	2,629
Total number of rooms	8,430
Cubic feet of air space	8,430,000
Number of control cultures used.....	1,519
Number of visits to houses under quarantine.....	2,848
Number of nuisances found	315
Contagious disease funerals supervised.....	69

THE CITY DISPENSARY AND OUT-DOOR POOR
DIVISION.

The following is a detailed statement of the services rendered by the different clinics, together with the treatment of what is known as the Out Door Poor Contingent.

PERSONS TREATED AT THE FOLLOWING CLINICS

Medical	12,163
Surgical	2,281
Diseases of Skin	1,557
Diseases of Children	779
Diseases of Women	353
Diseases of Genito Urinary Organs.....	1,329
Number of vaccinations	38,288
Number of teeth extracted.....	1,410
Number of Clinic Prescriptions.....	31,871

NUMBER OF DISTRICT PRESCRIPTIONS DISPENSED,
AS FOLLOWS

1st District	1,074
2nd District	1,173
3d District	1,303
4th District	1,072
5th District	884
6th District	466
7th District	697
8th District	1,074
9th District	1,011
10th District	1,343
11th District	721
Total number of District Prescriptions	10,821

RECAPITULATION.

Total number of patients treated	59,540
Total number of Prescriptions dispensed	42,041

SUMMARY OF SERVICES RENDERED BY DISTRICT PHYSICIANS

	1st Dist.—Dr. W. H. Schöpfer.		2d Dist.—Dr. J. S. Stage.		3d Dist.—Dr. H. Nolte		4th Dist.—Dr. M. T. Caffney.		5th Dist.—Dr. J. A. Hoffman.		6th Dist.—Dr. S. H. Baldwin.		7th Dist.—Dr. V. Nager		8th Dist.—Dr. W. Gauch.		9th Dist.—Dr. C. W. Titus.		10th Dist.—Dr. H. M. Hart.		11th Dist.—Dr. F. W. Hagney.	
Actual No. of houses visited	382	357	351	1016	298	263	358	488	334	424	364											
Actual No. of families visited	386	362	361	1028	344	282	372	501	357	484	408											
No. of sick prescribed for	409	375	320	1069	401	316	404	518	510	538	406											
No. of sick found treated by other physicians	7	6	3	59	4	7	4	0	10	2	13											
Total No. of re-visits made	1424	987	1433	1262	839	786	798	821	1017	928	961											
No. of patients sent to hospital	35	19	34	48	37	26	3	30	5	29	15											
No. of deaths	19	18	18	19	9	9	5	2	13	3												
No. of circulars on infant feeding distributed	1	0	0	0	0	0	0	0	0	0	0						8	4	0			

RECAPITULATION.

	Actual No. of houses visited	Actual No of families visited.	Sick prescribed for.	Found treated by other physicians.	Total No. of re visits made.	No of patients sent to hospitals	No. of deaths	No of circulars distributed.
1st District. .	382	386	409	7	1424	35	19	1
2d "	357	362	375	6	987	19	18	0
3d "	351	376	338	3	1433	34	21	0
4th "	1016	1028	1069	59	1262	48	19	0
5th "	298	344	401	4	839	37	9	0
6th "	263	282	316	7	786	26	9	0
7th "	358	372	404	4	798	31	9	0
8th "	488	501	518	0	821	30	5	0
9th "	334	357	510	10	1017	5	2	8
10th "	424	484	513	2	928	29	13	4
11th "	364	403	406	12	961	15	3	0
Total	4635	4895	5267	104	12296	310	127	13

RECEIPTS AND DISBURSEMENTS OF THE BOARD OF
HEALTH FOR THE YEAR ENDING
DECEMBER 31, 1901

Balance on hand January 1, 1901	\$246 98
Appropriated by Common Council (Tax Ordinance)	18,000 00
Appropriated by Common Council (Contingent Fund)	42,000 00
Special Fund Appropriated by Common Council on account Smallpox	20,000 00
Fines collected (1st Precinct Court) Board of Health Cases	125 85
Dead Animal Contract	1,500 00
	<hr/> \$81,872 83

OFFICE RECEIPTS

Filing plans (Plumbing Division)	\$2,352 00
Animal permits	82 70
Scavenger permits	19 60
Scavenger license	20 00
Sale of vaccine (City Dispensary)	234 25
Sale of formaldehyde	2 60
Sale of formulary (City Dispensary)	25
	<hr/> \$2,711 40

BACTERIOLOGICAL DIVISION

123 vials of Antitoxin @ \$1.00 per vial.	\$123 00
165 vials of Antitoxin @ \$1.00 per vial, less 10 per cent.	148 50
69 vials of Antitoxin @ \$1.00 per vial, less 20 per cent.	64 80
4 dozen culture tubes @ 50 cents.	2 00
Bacteriological examinations	82 50
	<hr/> 420 80
Total receipts	<hr/> \$85,005 03

DISBURSEMENTS.

SALARIES SANITARY DIVISION

Health Officer	\$1,600 00	
Clerks (2)	2,400 00	
Stenographer	720 00	
Supt Bureau Contagious Diseases	1 250 03	
Chief Disinfecting Corps	1,049 97	
Churnist	1,200 00	
Meat Inspectors (2)	2,000 00	
Plumbing Inspectors (3)	3,380 00	
Milk Inspector	800 75	
Inspectors (22)	18,471 75	
Janitress	165 00	
Meteorologist	72 00	
		\$35,119 50

BACTERIOLOGICAL DIVISION

Bacteriologist	\$2,249 98	
Assistant Bacteriologist	743 37	
Laboratory Assistant	600 00	
Culture Collector	1,095 00	
		4,688 35

DISPENSARY

City Apothecary	\$1,500 00	
Assistant Apothecary	425 03	
Dentist	300 00	
Janitress	115 00	
		2,340 03

INDIGENT POOR DIVISION.

District Physicians (11), \$40 per month	4,400 00
--	----------

SMALL POX HOSPITAL

Superintendent	825 00
	\$49,182 88

SANITARY DIVISION—1901

Window Glass Office	\$2 50
Rubber Gloves Office	43
Plumbing Work—Office	5 40
Transfer Cases Office	5 25
City Directory—Office	0 00
Electrical Repairs—Office	6 05
Repairing Furniture—Office	7 15
Repairing Wagon—Office	7 50
Awnings—Office	7 50
Repairing Mimeograph Office	9 15
Draping Office (President McKinley's death)	10 00
Uniform Buttons	10 00
Carpenter Work Office	14 59
Advertising Board of Health Ordinance	15 40
Typewriter Supplies	19 50
Janitress (temporary)	20 00
Portrait and frame (Com Alex H Johnson, deceased)	25 00
Electric fans (2) Office	25 25
Ice—Office	28 05
Coal—Office	34 55
Dr Runge's expenses to Vet Assn Atlantic City	45 00
Remington Typewriter (exchange)	50 00
John L. B. deceased Salary Resolut n Finance Dept)	68 75
Dr H M Hart (Salary Resolution, Acting Supt. Bureau Contagious Diseases)	69 28
Dr Coe (Salary Resolution, Acting District Physician)	60 13
Electric Light for Office	10 15
Inspector Freeman (Board and Carriage Hire Monthly Inspections at Watershed)	100 50
Office Furniture	108 83
Carriage Hire	124 00
D D Chandler, Health Officer (Expenses to American Public Health Association, Buffalo)	186 60
Telephone and Toll Service (3 Phones)	83 60
Stationery, no. Printing and Binding Annual Report for 1900)	543 40
Office Rent	800 00
Petty Cash (postage, car fare, expressage, incidentals)	1 000 00
	\$3,803 23

DISPENSARY.

Putting up awnings	\$2 00
Electrical repairs	2 00
Directory	6 00
Gas	17 10
Utensils (pots, pans, jars, floor brushes, mops, brooms, etc)	8 85
Towels	11 28
Ice ..	10 53
Refrigerators .	18 00
Surgical Supplies .	33 68
Washing Towels .	43 44
Stationery	97 75
Plumbing work (putting up stoves, piping, etc)	107 38
Telephone service	128 35
Coal	134 00
Liquors	134 48
Linoleum and shades	176 00
Drugs .	2,150 38
Vaccine .	5,206 00
	<hr/> \$8,297 12

DISINFECTING CORPS

Satchel	\$2 00
Handles for refrigerator regenerator boxes	2 40
Ice cooler, pick and tumblers	3 64
Stationery	4 00
Formaldehyde Spray	4 00
Ice	4 05
Carpenter work .	5 48
Newark City Directory (1)	6 00
Cotton batting	6 28
Chloride of lime	8 00
Rubber tubing	8 89
Repairing regenerators	12 55
Rubber goods (gloves, coats, etc).....	19 24
General supplies (mops, brooms, pails, etc.)..	29 32
Linoleum	30 80
Regenerators (2)	30 00
Disinfectants (Formaldehyde, etc) .	712 60
	<hr/> \$895 25

BACTERIOLOGICAL DIVISION.

Surgical instruments	\$12 83	
Stable supplies	38 80	
Chemicals	30 61	
Petty cash (postage, etc.)	125 00	
Horse shoeing	81 38	
Guinea pigs	90 00	
Purchase of horse .	125 00	
Printing and stationery	164.80	
Laboratory Supplies	202 45	
Board of Antitoxin, horses and professional services	1 209 25	
	—	\$2,179.12

SMALLPOX HOSPITAL

Repairing stove .	\$1 90
Lanterns	1 00
Advertising for help	4 61
Water rent	7 00
Asphalt (repairing roof)	8 00
Window sash	9 00
Plumbing repairs	9 05
Body preservers (2)	10 00
Medical consultation in Smallpox cases	10 00
Advertising Smallpox Ordinance (removal of patients)	10 95
Kerosene oil	12 70
Board of horse used by Disinfecting Corps in smallpox work	17 50
Use of hydraulic Jack Screws (2)	20 00
Ice	20 00
Surgical supplies (gauze and bandages)	23 81
Telephone extension service	24 00
Horse shoeing	25 75
Cleaning cesspool	28 00
Stationery (charts, blanks, ink, pens, pads)	30 43
Stoves and fixtures ...	51 90
Clothing (discharged patients)	61 22
Hospital slippers	65 78
Architect's services (Hospital Annex) . . .	68 15

SALARIES

Nurses, orderlies, ward maids, ambulance driver, cook and kitchen help	\$2,753 98	
Special Inspectors, Disinfecting Corps in smallpox work	437 45	
Special Officers (Quarantine)	131 32	
	<hr/>	3,322 55
Total		\$20,570 44

RECAPITULATION.

Total receipts	\$85,005 03
Total disbursements	84,898 04
	<hr/>
Balance on hand January 1, 1902	\$106 99

REPORT OF SUPERINTENDENT OF BUREAU CONTAGIOUS DISEASES.

Mr. David D. Chandler, Health Officer.

DEAR SIR:—I have the honor to present the following report of the work of the Bureau of Contagious Diseases for the year 1901:

OUR POPULATION. •

Our estimate for 1901 is fixed at 250,000—this being, if anything, rather under our normal rate of yearly increase. The population is distributed in 15 wards, as follows:

WARD	POPULATION
1	14,067
2	13,932
3	21,632
4	11,373
5	15,365
6	18,083
7	14,793
8	13,813
9	12,348
10	18,575
11	18,894
12	17,174
13	21,436
14	23,041
15	14,874
	—
	250,000

THE DEATH RATE.

The death rate for the year 1901 is fixed at 19.22 the rate being 4,806 deaths. The following tables compare these rates for eight years past:

YEAR	POPULATION	NO. OF DEATHS	RATE
1894	251,923	4,343	17.28
1895	255,725	4,616	18.07
1896	225,000	4,716	20.96
1897	230,000	4,010	17.43
1898	235,000	4,303	18.30
1899	240,000	4,537	18.90
1900	246,070	5,006	20.34
1901	250,000	4,806	19.22

SCARLET FEVER.

During the year 1901 there were reported 643 cases and 23 deaths. Comparing with the previous years, we have

YEAR.	CASES	DEATHS
1894	1,145	69
1895	623	35
1896	537	17
1897	1,358	54
1898	478	15
1899	607	34
1900	708	28
1901	643	23

Average mortality for eight years—4.9-10 per cent.

SCARLET FEVER CONTINUED.

Reported cases by months:

January	93	July	34
February	53	August .	8
March	73	September	31
April	82	October	33
May	82	November .	38
June	68	December	21

¹ for 1901—643 cases.

TYPHOID FEVER.

During 1901 we had 316 cases and 57 deaths. Comparing the years we have:

Year	CASES.	DEATHS.
1894	89	34
1895	149	50
1896	106	47
1897	103	33
1898	179	41
1899	515	66
1900	320	50
1901	316	57

TYPHOID FEVER.

Reported cases by months:

January	19	July	22
February	10	August	36
March	22	September	40
April	23	October	42
May	19	November	20
June	13	December	50

Total cases—316.

SMALL POX.

In the early portion of the winter 1900-1901 Newark was free from the disease. The reports from New York and vicinity, however, were of such a nature as to lead the Board of Health to anticipate trouble. It was decided to vaccinate the Department stores—over 800 people were vaccinated. Criticism was excited by this action, but subsequent events have more than justified the procedure. About the middle of February, 3 cases occurred among colored people. These cases were of the same character as the preceding year and were really a continuation of the same type of the disease.

The real beginning of our present outbreak was March 16, 1901, when a case of five days standing occurred in one

of the largest lodging houses in the city. A study of this case is given in detail. The man was an itinerant peddler. He contracted the disease in a lodging house in New York about February 24th.

Feb. 24 he was at the Union Lodging House, N. Y.

"	25	"	"	Yonkers, N. Y.
"	26	"	"	in New York City.
"	27	"	"	Perth Amboy, N. J.
"	28	"	"	"
Mch	1	"	"	"
"	2	"	"	New Brunswick, N. J.
"	3	"	"	"
"	4	"	"	"
"	5	"	"	Newark, N. J.

The man was about 47 years old; vaccinated 45 years ago.

1. The case illustrates first—the common practice of trusting to a childhood vaccination until middle age or necessity forces re-vaccination.

2. It involved a large exposure. The population of these lodging houses changes nightly and fully one half of the beds are occupied each night by new comers. A homeless population of 3,000 people is a real danger to a city. The necessity of licensing these places and requiring a high standard of sanitary arrangements is at once apparent. It is rare to find these places with any degree of modern hotel requirements, and the inmates are closely crowded together.

3. The sick inmates of these lodgings are cared for by the District Physicians and form no inconsiderable proportion of our hospital patients. The burden then is on the taxpayers of this city.

It was decided to give these places a thorough vaccination. This involved a large amount of arduous night work, but the good effects were immediately apparent, no more cases from these sources appearing.

Warm weather brought a decided decrease in the cases, the lowest point being reached in June. We give the cases by months:

1901.	•	1901.	
January	0 cases.	July	18 cases.
February	3 "	August	21 "
March	5 "	September	35 "
April	32 "	October ..	35 "
May	17 "	November ..	103 "
June	7 "	December	111 "

Total, 387 cases. Deaths, 71; 18 3 10 per cent.

During 1901, 38,288 vaccinations were performed at the City Dispensary, as follows:

January	1,255	July	810
February	2,633	August	1,260
March ..	950	September ..	8,420
April	5,840	October	5,210
May	3,650	November ..	3,420
June	2,370	December	2,470

This does not represent all the work done in vaccination. Counting re vaccinations and vaccinations, upwards of 100,000 people were vaccinated through the Board of Health. That there was great immunity is shown by the fact that the cases occurring represent only $1\frac{1}{2}$ cases to the thousand of population.

The following figures embrace the observation of 209 cases of Small Pox in our own city. In every case care was taken to confirm the history of the patient by an examination of the body marks and a study of the disease in its action on the patient.

Of the 209 cases, 99 had never been vaccinated, 61 had been vaccinated in childhood, 48 were vaccinated after Small Pox was discovered in their homes and they had modified Small Pox (Varioloid).

One patient, age 5 years, had an attack of the disease when three years old.

FATAL CASES.

Of the 280 cases 36 died, and of these 27 or 75 per cent. had never been vaccinated.

Of the 36 deaths, 26 were white, and 10 were colored.

1. The disease prevails among the unvaccinated, and they are of two classes—1st. Those who never have been vaccinated and 2nd. Expired vaccinations, immunity no longer existing.

Here we have 160 cases and 33 deaths.

2. Of modified Small Pox we find 48 cases and 2 deaths due to complications. This class of patients were not vaccinated until exposed to Small Pox. The results vary. If performed within three days of exposure and if successful, in most cases the disease is aborted. After three days it may or may not affect the progress of the disease.

3. Observation shows that the immunity acquired by vaccination is exceedingly variable. The immunity varies with the individual.

4. Small Pox does not always protect against itself, for we have had a patient with a secondary attack of a mild form. Again we have been able to vaccinate a number who claimed to have had the disease and whose faces showed pitting.

DIPHTHERIA.

During 1901 there were reported 1,154 cases and 103 deaths, a mortality of 8.92 100 per cent. This is a gratifying decrease from the cases and mortality of 1900. Comparing previous years and mortality, we have:

DIPHTHERIA CASES AND DEATHS.

YEAR.	CASES.	DEATHS.	PERCENTAGE
1895 .	1,321	273	
1896	1,261	218	
1897 . . .	969	137	
1898 .	1,019	133	
1899 . . .	1,170	124	
1900 ..	1,417	143	
1901 ..	1,154	103	
Total	8,311	1,131	13 6-100

DIPHTHERIA (ANTITOXIN USED).

YEAR	CASES.	DEATHS.	PERCENTAGE.
1895 .	384	52	13
1896	905	106	11
1897	563	61	11
1898	646	68	10½
1899	798	70	8 77 100
1900	987	80	8 1-10
1901	956	58	6 6-100

This low per cent. for 1901 6 per cent fulfills the prediction made when Antitoxin was established Six per cent. is a conservative estimate, probably 5 per cent could be justly claimed.

DIPHTHERIA (ANTITOXIN NOT USED)

YEAR	CASES	DEATHS	PERCENTAGE.
1895 .	937	221	23
1896	356	112	31
1897	406	76	19
1898	373	65	17½
1899	372	54	14½
1900	430	63	14 6-10
1901 . . .	198	45	22 7-10

REPORTED CASES BY MONTHS.

MONTHS.	CASES.	DEATHS.	MONTHS.	CASES.	DEATHS.
January . . .	172	20	July	44	1
February . . .	130	11	August	54	4
March	114	12	September . . .	81	6
April	78	6	October	100	12
May	99	7	November . . .	101	9
June	75	4	December . . .	106	11

Total 1,154 cases and 103 deaths—8.92 per cent

It must be remembered that prior to 1895 the average mortality of this city was 35 and 40 per cent., and that the tendency is to use Antitoxin only in severe cases.

VITAL STATISTICS.

These properly are the province of the Board of Health Communications on these subjects from outside cities are directed commonly to the Board. A registration of Undertakers and Midwives would be desirable.

The following is a summary of the chief statistics kept:

DEATHS—1901.

Total Deaths	4,806
Tuberculosis	625
Diphtheria	103
Scarlet Fever	23
Typhoid Fever	57
Small Pox	71
Measles	15
Whooping Cough	25

BIRTHS—1901.

White	5,924
Colored	92
Total	6,016
Rate—24.06 per M.	

MARRIAGES—1901.

White ...	2,366
Colored ..	75
Total	2,441
Rate—9.76 per M.	

STILL BIRTHS—1901

White	310
Colored	12
Not stated	2
Total	324
Rate—1.29 per M.	

The following is a table of deaths at all ages:

Under one month ..	299
Under one year	729
One year to five years.....	493
Five years to twenty years.....	283
Twenty years to sixty years	2,005
Over sixty years	988
Undefined	9
Total	4,806

The following table gives deaths by wards 1901:

WARDS.	DEATHS.
1	509
2 .	253
3 .	315
4 .	208
5 .	422
6 ..	556
7 .	291
8 .	192
9 . . .	248
10 .	302
11	298
12 .	305
13	318
14	307
15	277
Not stated	5
Total	4,806

VITAL STATISTICS.

DEATHS BY SEX

Males ..	.....	2,545
Females ..	.....	2,161
Total		<u>4,806</u>

DEATHS BY COLOR

White ..	.....	4,607
Colored	.....	192
Mongolian .	.....	2
Not stated	...	5
Total		<u>4,806</u>

YEAR.	POPULATION.	NO. OF DEATHS.	DEATH RATE.
1894	203,923	4,543	22.38
1895	215,725	4,616	21.37
1896	225,000	4,710	20.96
1897	230,000	4,010	17.43
1898	235,000	4,303	18.30
1899	240,000	4,537	18.90
1900	246,070	5,006	20.34
1901	250,000	4,806	19.22

TABLE OF CHIEF CAUSES OF DEATHS—1901.

CAUSE OF DEATH	White.	Colored.	Total.
Typhoid Fever.....	56	1	57
Malaria.....	10	0	10
Small Pox.....	65	6	71
Measles.....	13	0	13
Scarlet Fever.....	23	0	23
Whooping Cough.....	28	1	29
Diphtheria and Croup.....	98	3	103
Grippe.....	24	1	25
Dysentery.....	26	0	26
Other Epidemic Diseases.....	19	0	19
Purulent and Septic Infections.....	6	0	6
Pulmonary Tuberculosis.....	554	27	581
Other Forms of Tuberculosis.....	48	1	49
Cancer.....	178	2	180
Other General Diseases.....	79	3	82
Meningitis.....	153	6	159
Cerebral Congestion and Hemorrhage.....	241	9	240
Paralysis.....	80	2	82
Convulsions of Infants.....	110	5	115
Other Diseases of Nervous System.....	55	1	56
Organic Heart Disease.....	197	6	203
Other Diseases of Circulatory System.....	162	3	165
Bronchitis—Acute and Chronic.....	146	11	157
Broncho Pneumonia and Pneumonia.....	401	20	421
Other Diseases of Respiratory System.....	67	7	74
Diarrhœa and Enteritis under 2 years old.....	219	12	231
" " " 2 years and over.....	59	1	60
Hernias and Intestinal Obstruction.....	45	1	46
Peritonitis.....	27	3	30
Appendicitis.....	20	0	20
Other Diseases Digestive System.....	139	6	145
Bright's Disease.....	246	10	256
Other Diseases Gen.to Urinary System.....	86	2	88
Puerperal Septicæmia.....	24	3	27
Other Puerperal Diseases.....	23	1	24
Diseases of Skin and Cellular Tissue.....	21	0	21
Diseases Locomotor System.....	7	1	8
Hydrocephalus.....	10	0	10
Other Malformations.....	15	0	15
Infantile Diseases.....	329	21	350
Senile Debility.....	118	1	119
Suicide.....	68	0	68
Accidents.....	323	8	331
Ill-defined Diseases.....	56	5	61
Total Number of Deaths.....	4614	192	4806

Official rate 19.22 per one thousand—on an estimated population, 250,000.

INFECTIOUS DISEASES REPORTED BY WARDS.

WARDS	Diphtheria, including Membranous Croup,	Scarlet Fever.	Typhoid Fever.	Small Pox
1st	60	16	28	14
2d	59	13	16	39
3d	68	76	14	10
4th	28	8	18	41
5th	55	16	22	15
6th	94	76	17	12
7th	69	22	18	13
8th	75	79	21	7
9th	58	23	21	87
10th	59	52	13	73
11th	92	86	45	9
12th	99	27	25	22
13th	165	39	26	18
14th	117	91	22	14
15th	56	19	20	13
Total	1154	648	316	387

Respectfully submitted,

EDWARD E. WORL, M. D.,
Supt. Bureau Contagious Diseases.

REPORT OF THE DIVISION OF BACTERIOLOGY.

Mr. David D. Chandler, Health Officer:

DEAR SIR: Herewith is respectfully submitted the report of the Bacteriological Division for the year ending December 31st, 1901.

DIPHTHERIA.

During the year 3,268 cultures have been examined to determine if the germs of diphtheria were present, and of these 1,658 were primary cultures sent in for diagnosis.

The total number of cases of diphtheria reported in Newark during the year was 1,154, which is considerably less than we had during the year 1900, and the number of deaths from diphtheria during 1901 was less than for any of the six preceding years, being 103.

It is interesting to note the almost regular reduction in the number of deaths from diphtheria in Newark, which has taken place during the last seven years, as shown in the following table, which gives the total number of cases for each year, together with deaths and percentage mortality.

TOTAL NUMBER OF CASES OF DIPHTHERIA REPORTED, WITH MORTALITY.

YEAR	CASES.	DEATHS.	PER CENT.
1895	1,321	273	20
1896	1,261	218	17
1897	969	137	14
1898	1,019	133	13
1899	1,170	124	10
1900	1,417	143	10
1901	1,154	103	8

Whether the above results are due to variations in the type of disease, which we know varies in virulence from

year to year, or to treatment with Antitoxin, it is difficult to say, but in view of the fact that almost five-sixths (5-6) of all cases of diphtheria in Newark last year were given Antitoxin, it seems reasonable to believe that this remedy is responsible to a large extent for the reduced mortality.

DIPHTHERIA ANTITOXIN.

During 1901 the total production of Antitoxin was 2,389 bottles of ten cubic centimeters each. Of this amount 1,405 bottles were used by physicians in the treatment of cases of diphtheria, and 184 bottles were used in immunizing persons who had been exposed to contagion.

We have been able to determine from the data furnished by physicians that not less than 950 different patients were injected with the Antitoxin prepared by the Newark Board of Health, and the following table shows the results for 1901, as well as for the preceding six years, and contrasts the Antitoxin treated cases with those in which the serum was not used:

ANTITOXIN USED.

YEAR.	CASES.	DEATHS.	PER CENT.
1895	384	52	13
1896	905	106	12
1897	363	61	11
1898	646	68	10
1899	708	70	8
1900	987	80	8
1901	956	58	6

ANTITOXIN NOT USED

YEAR.	CASES.	DEATHS.	PER CENT.
1895	937	221	23
1896	356	112	31
1897	406	76	18
1898	373	65	17
1899	372	54	14
1900	430	63	14
1901	1,488	45	22

The above table shows that about five-sixths of all cases of Diphtheria in Newark in 1901 were treated with

Antitoxin and resulted in a mortality of only 6 per cent, while the mortality in cases in which the remedy was not used was 22 per cent, a difference so great that it ought to appeal to everyone. And there is good reason to believe that the percentage for Antitoxin treated cases is too high rather than too low, as we have more than fifty Antitoxin receipts from physicians who failed to furnish sufficient data to enable us to identify the case for which the Antitoxin was obtained.

TUBERCULOSIS.

During 1901 there have been examined at the Laboratory 960 specimens of sputa from suspected tuberculosis patients, and in 366 the germs of the disease were found. The following analysis of the cases whose sputum was examined has been prepared by Dr. R. C. Ribbans, Assistant Bacteriologist:

To the Bacteriologist:

DEAR SIR—I have the pleasure to submit to you the report of sputum examinations in cases of suspected tuberculosis for the preceding year.

Tuberculosis is on the increase in all parts of the country and deaths from this disease in our city, alone, amounted to 660.

The data furnished by the doctors, tabulated below, shows that we have had 960 specimens; males, 533, females, 427.

Of this number 366 were true cases.

The ages tabulated are—females, 85; males, 167, arranged as follows:

AGE.	FEMALE.	MALE.
1-10 years	2 cases.	1 case.
10-20 "	7 "	5 cases.
20-30 "	34 "	61 "
30-40 "	32 "	55 "
40-50 "	7 "	29 "
50- "	3 "	16 "

We find that about 24 per cent of these cases either had Tuberculosis in their families or have nursed cases of Tuberculosis, thus exposing themselves.

The occupations given were as follows:

In 250 cases we find that Indoor Occupation cases were		
Male		140
Female		75

Outdoor occupation:

Male	32
Female	3

OCCUPATION.	CASES.
Agents (Insurance)	2
Astronomer	1
Butchers	4
Blacksmiths	2
Bartenders	8
Brewer	1
Bookkeepers	5
Barber	1
Carpenters	2
Custodians	2
Clerks	25
Corset Manufacturers	2
Cooks	5
Conductors	5
Coal Dealers	12
Cigar Manufacturers	4
Drivers	10
Druggists	2
Dressmakers	2

OCCUPATION.	CASES.
Firemen	2
Grocers	4
Housework	50
Hosiery	2
Harness Maker	1
Hatters	6
Jewelers	4
Japaners	6
Laborers (Miscellaneous)	58
Leather Workers	10
Letter Carriers	2
Machinists	4
Merchants	4
Messengers	2
Masons	3
News Dealers	2
Nurses	2
Night Watchmen	3
Painters (House)	2
Plumbers	5
Polishers	8
Printers	5
Pressmen	3
Stevedores	2
Shipping Clerks	8
Salesman	1
Shop Women	4
Shoe Manufacturers	3
Sextons	2
Students	4
Stone Cutters	4
Teachers	2
Trainmen	2
Tool Manufacturer	1
Typewriters	4
Tailors	6
Telegraphers	2
Tanners	8
Upholsterers	1
Waiters	5
Watch Manufacturer	1

From an examination of this table it will be seen that typhoid is comparatively rare among those who live an outdoor life under normal and healthful conditions, and is comparatively common among those who live habitually indoors, in that it attains its maximum height among those whose occupation involves prolonged confinement in an impure atmosphere.

Respectfully,

R. C. RIBBANS, M. D.,
Assistant Bacteriologist.

BLOOD EXAMINATIONS.

During the year 701 specimens of blood were examined for Typhoid reaction and for Plasmodia Malaria, and 235 specimens gave a positive reaction, 73 suspicious and 393 were negative.

CITY WATER SUPPLY.

Bacteriological examinations were made of samples taken from previously selected points of the water system and the usual enumeration of bacteria made as well as fermentation determinations with each sample.

The following table gives the results obtained with the data and place at which each sample was taken:

DATE 1901	ORIGIN OF SAMPLE.	No. Bact Per C. C	AMOUNT OF WATER CAUSING FERMENTATION IN 5 C. C GLUCOSE BOUILLON.						
			$\frac{1}{20}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{2}$	1 C. C.	5 C. C.	10 C. C.
Jan 10	Oak Ridge Stream, above Clinton Stream.	940	—	+	+	+	+	+	+
" "	Macopin Intake, inside gatehouse.	860	—	—	—	—	+	+	+
" "	Belleville Reservoir, inside gatehouse	320	—	—	—	—	—	+	+
" "	Board of Health Office, rear room	290	—	—	—	—	+	+	+
" "	Laboratory Faucet, City Hospital	50	—	—	—	—	—	—	+
Jan 17	Oak Ridge Stream, above Clinton Stream	740	+	+	+	+	+	+	+
" "	Clinton Stream, above Oak Ridge Stream	680	—	+	+	+	+	+	+
" "	Echo Lake Stream, above Pequannock River	590	—	—	—	+	+	+	+
" "	Macopin Intake, inside gatehouse.	750	—	—	—	—	—	+	+
" "	Belleville Reservoir, inside gatehouse.	370	—	—	—	—	—	+	+
" "	Board of Health Office, rear room	230	—	—	—	—	—	+	+
" "	Laboratory Faucet, City Hospital	70	—	—	—	—	—	+	+
Jan 24	Oak Ridge Stream, above Clinton Stream.	970	—	+	+	+	+	+	+
" "	Echo Lake Stream, above Pequannock River	530	—	—	—	—	+	+	+
" "	Macopin Intake, inside gatehouse.	760	—	—	+	+	+	+	+
" "	Belleville Reservoir, inside gatehouse	480	—	—	—	+	+	+	+
" "	Board of Health Office, rear room	190	—	—	—	+	+	+	+
" "	Laboratory faucet, City Hospital	70	—	—	—	—	—	—	+
Feb 1	Oak Ridge Stream, above Clinton Stream	810	—	+	+	+	+	+	+
" "	Macopin Intake, inside gatehouse	630	—	—	—	+	+	+	+
" "	Belleville Reservoir, inside gatehouse	320	—	—	—	+	+	+	+
" "	Board of Health Office, rear room	215	—	—	—	—	+	+	+
" "	Laboratory Faucet, City Hospital	40	—	—	—	—	—	—	+
Feb 7	Oak Ridge Stream, above Clinton Stream	860	—	+	+	+	+	+	+
" "	Echo Lake Stream, above Pequannock River	630	—	—	—	+	+	+	+
" "	Macopin Intake, inside gatehouse.	750	—	—	+	+	+	+	+
" "	Belleville Reservoir, inside gatehouse	410	—	—	—	—	+	+	+
" "	Board of Health Office, rear room.	290	—	—	—	—	+	+	+
" "	Laboratory Faucet, City Hospital.	55	—	—	—	—	—	+	+

DATE. 1901	ORIGIN OF SAMPLE.	No Bact Per C. C	AMOUNT OF WATER CAUSING FERMENTATION IN 5 C. C. GLUCOSE BOUILLON.						
			$\frac{1}{20}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{2}$	1 C. C.	5 C. C.	10 C. C.
Feb 21	Oak Ridge Stream, above Clinton Stream	1130	—	—	+	—	+	+	+
" "	Clinton Stream, above Oak Ridge Stream ..	620	—	—	—	—	—	+	+
" "	Echo Lake Stream above Pequannock River	530	—	—	—	—	—	+	+
" "	Macopin Intake inside gatehouse	760	—	—	—	+	+	+	+
" "	Belleville Reservoir, inside gatehouse ..	370	—	—	—	—	+	+	+
" "	Board of Health Office, rear room	190	—	—	—	—	—	+	+
" "	Laboratory Faucet, City Hospital.....	60	—	—	—	—	—	—	+
March 7	Oak Ridge Stream, above Clinton Stream...	4672	—	—	+	+	+	+	+
" "	Clinton Stream, above Oak Ridge Stream	740	—	—	—	—	—	+	+
" "	Echo Lake Stream above Pequannock River	500	—	—	—	—	—	+	+
" "	Macopin Intake, inside gatehouse	1290	—	—	—	—	—	+	+
" "	Belleville Reservoir, inside gatehouse.....	695	—	—	—	—	—	—	+
" "	Board of Health Office, rear room .. .	120	—	—	—	—	+	+	+
" "	Laboratory Faucet, City Hospital.....	90	—	—	—	—	—	—	+
Mch 15	Oak Ridge Stream, on Dover Road, near Oak Ridge Road.....	2370	—	—	—	—	—	—	+
" "	Oak Ridge Stream, above Clinton Stream....	2800	—	—	—	—	+	+	+
" "	Clinton Stream, above Oak Ridge Stream...	1575	—	—	—	+	+	+	+
" "	Belleville Reservoir, inside gatehouse.....	970	—	—	—	—	+	+	+
" "	Board of Health Office, rear room.....	820	—	—	—	+	+	+	+
" "	Laboratory Faucet, City Hospital.....	260	—	—	—	—	—	+	+
Mch. 28	Oak Ridge Stream, above Clinton Stream	1830	—	—	—	—	+	+	+
" "	Clinton Stream, above Oak Ridge Stream...	1040	—	—	—	—	—	+	+
" "	Echo Lake Stream, above Pequannock River	1250	—	—	—	—	+	+	+
" "	Macopin Intake, inside gatehouse	1270	—	—	—	—	+	+	+
" "	Belleville Reservoir, inside gatehouse.....	630	—	—	—	—	—	+	+
" "	Board of Health Office, rear room	570	—	—	—	—	—	+	+
" "	Laboratory Faucet, City Hospital .. .	190	—	—	—	—	—	+	+
April 18.	Laboratory Faucet, City Hospital.....	190	—	—	—	—	—	+	+

DATE, 1901	ORIGIN OF SAMPLE.	No. Bact Per C. C.	AMOUNT OF WATER CAUSING FERMENTATION IN 5 C. C. GLUCOSE BOUILLON						
			$\frac{1}{30}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{2}$	1 C. C.	5 C. C.	10 C. C.
April 25	Laboratory Faucet City Hospital	210		—			+	—	—
" 30	Laboratory Faucet, City Hospital	190	—	—	—				—
May 3	Oak Ridge Stream, above Clinton Stream	1140	+	+	+	—	+	+	—
" "	Clinton Stream, above Oak Ridge Stream	970		+	+	—	+	+	—
" "	Echo Lake Stream, above Pequannock River	960	—		+	+	+	+	—
" "	Macopin Intake, inside gatehouse	1070		+	+	+	+	+	—
" "	Belleville Reservoir, inside gatehouse inlet.	560	—	—	—	—	+	—	—
" "	Board of Health Office, rear room	430		—			—	+	—
" "	Laboratory Faucet, City Hospital	140	—				—	+	—
" "	Belleville Reservoir, at outlet	490					—	+	+
May 9	Oak Ridge Stream, above Clinton Stream	1490	—	—	+	+	+	—	+
" "	Clinton Stream, above Oak Ridge Stream	1220		—		+	—	—	+
" "	Echo Lake Stream, above Pequannock River	1430	+	+	+	+	—	—	+
" "	Macopin Intake, inside gatehouse	1280	+	+	+	+	+	—	+
" "	Belleville Reservoir, inside gatehouse.	620	—		—	+	+	—	—
" "	Board of Health Office, rear room	360			—		—	+	—
" "	Laboratory Faucet City Hospital	120				—		+	—
June 15	Oak Ridge Stream, above Clinton Stream	1260					+	—	—
" "	Clinton Stream, above Oak Ridge Stream	1040	+	+	+	+	+	—	—
" "	Echo Lake Stream, above Pequannock River	1140	+	+	+	+	+	+	—
" "	Macopin Intake, inside gatehouse.	1280	+	+	+	+	+	+	+
" "	Belleville Reservoir, inside gatehouse	590	+	+	+	+	+	+	+
" "	Board of Health Office, rear room	420	—	—	—	—	+	+	+
" "	Laboratory Faucet, City Hospital	180	—	—	—	+	+	+	+
June 27	Oak Ridge Stream, above Clinton Stream	970		—	—		+	+	+
" "	Clinton Stream, above Oak Ridge Stream	840			—		+	+	+
" "	Echo Lake Stream, above Pequannock River	930		—			+	+	+
" "	Macopin Intake, inside gatehouse	1020	—		—	—	+	—	+
" "	Belleville Reservoir, inside gatehouse.	460	—	—	—	—	—	+	+

DATE. 1901	ORIGIN OF SAMPLE.	No. Bact. Per C. C.	AMOUNT OF WATER CAUSING FERMENTATION IN 5 C. C. GLUCOSE BOUILLON						
			$\frac{1}{320}$	$\frac{1}{160}$	$\frac{1}{80}$	$\frac{1}{40}$	1 C. C.	5 C. C.	10 C. C.
June 27	Board of Health Office, rear room	320	—	—	—	—	+	+	+
" "	Laboratory Faucet, City Hospital	90	—	—	—	—	—	+	+
July 18	Oak Ridge Stream, above Clinton Stream. . .	1460	+	+	+	+	+	+	+
" "	Clinton Stream, above Oak Ridge Stream. . .	1170	+	+	+	+	+	+	+
" "	Echo Lake Stream, above Pequannock River. .	1750	+	+	+	+	+	+	+
" "	Macopin Intake, inside gatehouse.	1235	+	+	+	+	+	+	+
" "	Belleville Reservoir, inside gatehouse. . . .	790	+	+	+	+	+	+	+
" "	Board of Health Office, rear room	630	—	+	+	+	+	+	+
" "	Laboratory Faucet, City Hospital	240	—	+	+	+	+	+	+
July 30	Oak Ridge Stream, above Clinton Stream . . .	2630	+	+	+	+	+	+	+
" "	Clinton Stream, above Oak Ridge Stream . . .	1890	—	—	—	+	+	+	+
" "	Echo Lake Stream, above Pequannock River . .	2370	—	—	—	—	+	+	+
" "	Macopin Intake, inside gatehouse.	1140	—	—	—	—	+	+	+
" "	Belleville Reservoir, inside gatehouse	950	—	—	—	—	—	+	+
" "	Board of Health Office, rear room	465	—	—	—	—	+	+	+
" "	Laboratory Faucet, City Hospital	530	—	—	—	—	+	+	+
Aug 15	Oak Ridge Stream, above Clinton Stream . . .	2770	+	+	+	+	+	+	+
" "	Clinton Stream, above Oak Ridge Stream. . .	1200	+	+	+	+	+	+	+
" "	Echo Lake Stream, above Pequannock River. .	930	—	—	—	—	+	+	+
" "	Macopin Intake, inside gatehouse	1780	—	+	+	+	+	+	+
" "	Belleville Reservoir, inside gatehouse	920	—	—	—	+	+	+	+
" "	Board of Health Office, rear room	460	—	—	—	—	+	+	+
" "	Laboratory Faucet, City Hospital	280	—	—	—	—	—	—	+
Aug. 20	Laboratory Faucet, City Hospital	340	—	—	—	—	—	+	+
Aug. 29	Oak Ridge Stream, above Clinton Stream . . .	1050	+	+	+	+	+	+	+
" "	Clinton Stream, above Oak Ridge Stream. . .	1870	+	+	+	+	+	+	+
" "	Echo Lake Stream, above Pequannock River . .	1580	—	+	+	+	+	+	+
" "	Macopin Intake, inside gatehouse	1440	+	+	+	+	+	+	+

DATE, 1901	ORIGIN OF SAMPLE.	No. Bact. Per C. C.	AMOUNT OF WATER CAUSING FERMENTATION IN 5 C. C. GLUCOSE BOUILLON.						
			$\frac{1}{20}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{2}$	1 C. C.	5 C. C.	10 C. C.
Aug. 29	Belleville Reservoir, inside gatehouse. . .	740		+	+	+	+	+	+
" "	Board of Health Office, rear room	720	+	+	+	+			+
" "	Laboratory Faucet, City Hospital . . .	310	—		+	+	+	+	—
Sept. 12	Canistota Reservoir	650		+	+	+	+		—
" "	Oak Ridge Stream, above Clinton Stream	1090	+	+	+	+	+	+	
" "	Clinton Stream, above Oak Ridge Stream	2500	—		+	+	+	—	
" "	Echo Lake Stream, above Pequannock River	2390	+	+	+	+	+	+	+
" "	Macopin Intake, inside gatehouse. . .	660	+	+		+	+	+	+
" "	Belleville Reservoir,	150	—	—	+	+	+	+	+
" "	Board of Health Office, rear room,	140	—	+	+	+	+	+	+
" "	Laboratory Faucet, City Hospital	170		+	+	+	+	+	—
Sept. 27	Oak Ridge Stream, above Clinton Stream	1250	+	+	+	+	+	+	
" "	Clinton Stream, above Oak Ridge Stream	1160	+	+	+	+	+	+	+
" "	Echo Lake Stream, above Pequannock River	930		+	+	+	+	+	+
" "	Macopin Intake, inside gatehouse . . .	1050	+	+	+	+	+	+	+
" "	Belleville Reservoir, inside gatehouse . . .	930	—		—	+	+	+	+
" "	Board of Health Office, rear room,	300	—		—	+	+	+	+
" "	Laboratory Faucet, City Hospital	150			+	+	+	+	+
Oct. 9	Oak Ridge Stream, above Clinton Stream	970	—			—	+	+	+
" "	Clinton Stream, above Oak Ridge Stream	840	—	—	—	—	+	+	+
" "	Echo Lake Stream, above Pequannock River	760			—	+	+	+	+
" "	Macopin Intake, inside gatehouse.	980			—	+	+	+	+
" "	Belleville Reservoir, inside gatehouse	560				+	+	+	+
" "	Board of Health Office, rear room,	420	—		+	+	+	+	+
" "	Laboratory Faucet, City Hospital	90			—	—	+	+	+
Oct. 21	Oak Ridge Stream, above Clinton Stream.	1010	+	+	+	+	+	+	+
" "	Clinton Stream, above Oak Ridge Stream	940	—		+	+	+	+	+
" "	Echo Lake Stream, above Pequannock River	990		+	+	+	+	+	+
" "	Macopin Intake, inside gatehouse	1260	—		+	+	+	+	+

DATE, 1901	ORIGIN OF SAMPLE.	No. Bact Per C C	AMOUNT OF WATER CAUSING FERMENTATION IN 5 C C GLUCOSE BOUILLON							
			12	120	1	1	1		5	
							C	C.	C	C
Oct 21	Belleville Reservoir, inside gatehouse.	670			+	+	+			
" "	Board of Health Office, rear room,	560	+		+	+	+			
" "	Laboratory Faucet, City Hospital,	230			—	+	+			
Nov 21	Oak Ridge Stream, above Clinton Stream	1120			—		+			
" "	Clinton Stream, above Oak Ridge Stream	970				+	+			
" "	Echo Lake Stream, above Pequannock River	830	—		—	+	+			
" "	Macopin Intake, inside gatehouse	920		+	+	+	+			
" "	Belleville Reservoir, inside gatehouse .	420			—	+	+			
" "	Board of Health Office, rear room	150	—		—	+	+			
" "	Laboratory Faucet, City Hospital	70			—					
Dec 30	Oak Ridge Stream, above Clinton Stream	1540	—		+	+	+			
" "	Macopin Intake, inside gatehouse.	1820			+	+	+			
" "	Belleville Reservoir, inside gatehouse	930			+	+	+		+	
" "	Board of Health Office, rear room	640			+	+	+		+	
" "	Laboratory Faucet, City Hospital	420			—	+	+			

tc

In addition to the samples of city water, there have been made thirty-two (32) examinations of samples of well water, three samples of ice, fifteen samples of mineral spring water, two samples of cows' milk and four samples of vaccine virus.

There were also made a large number of examinations of samples of discharges, excretions and specimens of tissue for the convenience of physicians, records of which were not preserved, as they were not of general interest.

Tests of efficiency of disinfection have also been made by exposing living germs of known variety in rooms while members of the Disinfecting Corps were disinfecting premises after infection by contagious diseases, and during the year 1,530 test cultures were examined. The results showed that but 0.5, or four per cent. of all disinfections performed by the Disinfecting Corps required re-disinfection—a percentage so small, especially when we consider the enormous amount of work required of our Inspectors on account of the Small Pox outbreak, that it must produce a feeling of security in the community and be a source of satisfaction to the Board of Health that this high degree of efficiency exists in the work of the Disinfecting Corps.

LABORATORY RECORD FOR 1901 GIVING NUMBER OF EXAMINATIONS

1901

DIPHTHERIA EXAMINATIONS	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug	Sept.	Oct	Nov	Dec	Total
Primary Cultures	229	193	157	128	126	130	71	73	86	132	137	196	1658
True Cases	107	83	70	51	69	55	29	36	50	72	67	70	757
Primary and Secondary Cultures	417	313	300	253	244	224	113	112	168	284	264	349	3070
<hr/>													
DIPHTHERIA ANTITOXIN.													
No. of Vials Produced.	0	375	410	0	258	0	419	0	0	365	277	287	2391
No. of Vials used by Physicians.	203	215	137	98	111	88	66	59	119	190	228	194	1708
<hr/>													
TUBERCULOSIS EXAMINATIONS.													
Tubercle Bacilli found	35	27	24	24	36	41	28	33	30	31	30	37	376
Tubercle Bacilli not found	77	58	71	52	76	44	22	23	31	41	60	59	594
<hr/>													
TYPHOID BLOOD EXAMINATIONS													
Positive Reactions	19	11	12	10	11	9	10	21	33	27	17	41	227
Suspicious Reactions	6	6	3	2	4	5	3	9	8	15	4	8	73
Negative Reactions	20	22	28	23	47	36	30	36	57	35	34	25	393
<hr/>													
WATER EXAMINATIONS													
Number of Specimens	28	21	22	7	18	16	18	30	17	18	12	7	214
Disinfection Tests	204	158	161	140	138	128	109	67	82	111	108	111	1520
Vaccine Virus Tests			2	2									4

95

Very respectfully,

R. N. CONNOLLY, M. D.,
Bacteriologist

Mr. David D. Chandler, Health Officer:

DEAR SIR—I herewith submit my annual report for the year ending December 31st, 1901.

MILK.

The examination of milk has been continued on the same general lines as in the past few years. That the system is a good one is indicated, by the fact that the inspector rarely finds samples much below the state standard of twelve per centum of total solids, and that whenever the State Inspectors visit Newark they seldom, if ever, find milk of a poor quality.

Notwithstanding the good condition of our milk supply, the large and rapid growth of the city, the increased number of dealers and advanced ideas concerning the sanitary control of this most important article of diet make it very desirable that the scope of inspection should be widened by more frequent examinations and the adoption of some system by which the dealers would have to furnish proper information about the conditions under which their milk is produced and handled. This plan is being followed in a number of cities with good results.

There were 293 samples of milk analyzed during the year, a greater number than ever before. They have been tabulated as follows:

CLASSIFIED TABLE OF MILK ANALYSES.
 Samples having a Percentage of Total Solids above 12.50.
 Average for Solids, 13.104. Average for Fat, 4.013.

Solids.	Fat	Solids	Fat.	Solids.	Fat	Solids	Fat	Solids	Fat	Solids	Fat
12.77	3.95	11.74	4.60	14.02	4.85	12.81	3.90	12.72	3.80	12.84	3.85
12.57	3.74	13.5	4.35	13.53	4.25	13.50	4.30	12.78	3.90	12.73	4.20
12.85	4.00	12.97	4.05	12.56	3.80	12.66	3.85	13.53	4.20	13.39	4.40
14.38	4.65	12.66	4.00	13.22	3.90	12.87	4.00	13.02	3.95	12.71	4.00
12.51	4.10	12.65	3.25	13.37	4.50	13.67	3.70	13.37	4.50	13.09	3.90
13.23	4.00	12.76	3.75	13.11	4.00	12.74	3.80	12.81	3.50	12.73	4.40
12.92	3.50	12.84	4.30	13.26	4.5	12.83	3.00	13.04	4.00	12.92	4.05
12.62	3.80	13.84	3.80	13.47	4.50	13.09	5.00	13.15	3.80	13.81	4.50
13.75	4.30	12.76	3.20	13.49	3.80	12.89	4.30	13.67	4.00	13.15	4.00
12.51	4.00	12.94	4.00	13.75	4.00	14.26	4.80	12.61	3.60	13.21	4.30
14.73	5.15	13.29	4.00	12.87	4.20	13.66	4.10	12.74	4.00	13.04	4.70
13.85	4.75	14.61	5.20	12.51	3.30	13.61	3.80	12.53	3.40	12.54	3.85
13.26	3.00	13.66	4.00	13.73	3.85	13.73	3.80	12.79	4.00	13.19	4.10
14.26	4.50	12.77	3.30	13.64	3.90	13.13	3.70	13.97	4.45	12.72	3.80
13.03	3.75	12.80	3.80	12.59	3.60	12.77	3.70	14.57	4.00	12.78	3.80
13.46	4.25	13.40	4.40	12.68	3.40	12.92	3.90	13.14	3.90	12.96	3.80
12.83	3.80	12.63	3.40	12.79	3.00	12.74	3.75	12.52	4.20	12.69	3.60
12.76	3.15	12.50	3.20	12.82	4.00	2.60	3.60	13.34	4.70	13.16	4.35
12.72	3.80	12.30	3.90	12.70	4.35	12.50	4.15	13.24	4.10	12.30	3.85
12.85	3.95	13.67	4.75	13.52	3.95	12.54	3.60	12.90	4.80	12.76	3.85
13.26	4.55	13.28	4.75	12.69	3.80	12.96	4.30	13.16	4.30	13.03	4.10
12.79	3.65	12.79	3.50	12.60	4.00	13.08	4.60	12.70	4.10	13.19	4.10
12.75	4.00	12.51	4.00	13.15	4.15	12.99	4.60	13.12	3.80	12.82	3.90
13.49	4.30	12.70	3.65	12.69	3.50	13.72	4.40	13.49	4.30	12.86	4.00
13.26	4.15	13.09	3.80	13.35	3.50	12.74	3.90	12.65	3.80	12.56	3.80
12.68	3.65	12.69	4.00	13.91	4.40	17.20	3.55	13.80	4.50	12.31	3.40
13.03	4.25	13.14	4.00	12.81	4.85	14.66	5.60	12.58	3.30	13.20	4.30
12.96	4.10	12.64	3.40	12.88	3.85	12.68	3.40	13.22	4.10	13.58	4.35
12.98	3.50	13.75	4.00	12.54	3.30	12.79	4.00	12.99	3.80	14.29	4.70
15.01	4.80	13.21	3.80	12.54	3.80	12.63	4.00	12.90	4.60	13.53	4.00
12.59	4.00	12.59	3.80	13.22	4.60	13.39	4.10	12.69	4.20	14.02	3.85
13.08	4.05										

CLASSIFIED TABLE OF MILK ANALYSES--CONTINUED

Samples having a Percentage of Total Solids between 12 and 12.50

Average for Solids, 12.248. Average for Fat, 3.522

Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat
12.07	3.85	12.47	3.55	12.42	3.80	12.32	3.40	12.36	3.85	12.19	3.40
12.32	3.40	12.26	3.80	12.33	3.65	12.43	3.90	12.32	3.80	12.01	3.25
12.38	3.65	12.47	3.50	12.03	3.50	12.01	3.35	12.03	3.25	12.07	3.10
12.08	3.90	12.17		12.44	3.20	12.14	3.50	12.31	3.75	12.19	3.00
12.21	3.70	12.14	3.70	12.03	3.50	12.45	3.30	12.29	3.35	12.17	3.30
12.33	3.80	12.19	3.30	12.49	3.70	12.28	3.15	12.47	3.20	12.39	3.40
12.41	3.75	12.23	3.30	12.30	3.60	12.20	3.40	12.00	3.35	12.02	3.30
12.39	3.80	12.03	3.60	12.48	3.60	12.47	3.95	12.49	3.70	12.06	3.40
12.11	3.45	12.03	3.35	12.22	3.40	12.00	3.80	12.16	3.65	12.20	3.40
12.46	3.60	12.18	3.10	12.31	3.40	12.06	3.40	12.10	3.30	12.00	3.40
12.32	3.75	12.17	3.35	12.41	3.85	12.28	3.50	12.40	3.85	12.29	3.70
12.27	3.75					...	..	..	..	...	....

50

Samples having a Percentage of Total Solids below 12

Average for Solids, 11.822 Average for Fat, 3.077.

Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat
11.54	3.60	11.70	3.10	11.88	3.50	10.81	2.90	10.75	3.25	10.77	3.20
11.82	3.40	11.37	3.10	10.89	2.80	11.81	3.40	11.93	3.20	11.99	3.35
11.86	3.40	11.64	3.00	11.95	3.95	11.62	3.40	11.88	3.40	11.64	2.90
10.78	2.80	11.35	3.10	11.65	3.00	11.79	3.20	11.53	3.75	11.48	3.30
11.47	3.40	11.80	3.20	11.66	3.20	11.81	3.20	11.65	3.20	11.89	3.40
11.81	3.70	11.28	3.00	11.71	2.70	11.89	3.35	11.50	2.70	11.85	3.20
11.74	3.50	11.64	3.47	11.08	3.00	....	....	....	....	....	....

The comparative table of averages given in the last two reports has been continued and shows in a striking way the uniformity between the averages of the different classes from year to year. The general averages for both Total Solids and Fat are, however, slightly lower than for previous years. This I believe to be due to the comparatively large number of bulk samples from one source, the analytical results of which almost always fell in the second class and not infrequently in the third.

COMPARISON TABLE.

Year.....		1897	1898	1899	1900	1901
Number of samples analyzed.		136	178	221	283	293
1st class	Percentage of Samples	69.12	70.22	72.40	65.37	63.82
	Average % of total solids	13.24	13.24	13.06	13.24	13.10
	Average % of fat			3.95	4.06	4.01
2d class	Percentage of samples	21.32	14.15	15.38	21.55	22.87
	Average % of total solids	12.23	12.35	12.27	12.23	12.25
	Average % of fat			3.60	3.56	3.52
3d class	Percentage of samples	9.56	15.73	12.22	13.07	13.31
	Average % of total solids	11.61	11.58	11.48	11.56	11.82
	Average % of fat			3.11	3.25	3.08
General average % of total solids		12.87	12.82	12.75	12.57	12.70
General average % of fat				3.80	3.85	3.75

MILK PRESERVATIVES.

All the samples analyzed were tested for formaldehyde, but with negative results. The absence of this most effective preservative is cause for much satisfaction to health authorities and sanitarians, and is doubtless due to the wide publicity given to its frequent occurrence in milk a few years ago and the ease with which it is detected. No general search for any other preservative has been made except for borax and boracic acid in a few instances where none was found.

SPRING AND LITHIA WATERS

The amount of spring water sold in the city and the number of concerns selling it has increased during the year and attention has been given to the examination of some of the water.

Although the chemical analysis of these waters showed that most of them were of good quality, I think that the point may be fairly taken that no matter how good and pure they may be at the spring in a fresh condition, they may become, through handling by bottlers and others sources of infection. Perhaps there is little danger from this cause, but I think it is greater than that attached to the use of the city water, which is of such excellent quality.

During the examination some very curious facts were observed. Analysis repeated several times of one of the most widely advertised waters showed that there was considerable variation in its composition on different dates, particularly in the amount of chlorine, which although always large, had its highest figure more than four times as great as the lowest. In the case of another water, the composition

on two different occasions was entirely unlike that indicated by the published analysis, and in fact was much better. Several of these waters were sold and advertised as lithia waters containing that substance in medicinal amounts. A careful test, however, for lithia, failed to show its presence in any of the samples.

Leaving out of the question the sanitary value of these waters, their sale, based on the lithia they are supposed to contain, is a commercial fraud on a par with the sale of any other article of food or drink which is not as represented.

In the following table of analytical results the samples are designated by mark and date only.

ANALYSES OF MINERAL AND SPRING WATERS.

(PARTS PER 100,000)

Mark	Date, 1901		Free Ammonia	Albuminoid Ammonia	Chlorine	Nitrogen as Nitrites	Nitrogen as Nitrates	Hardness (Alkalinity - CaCO_3)	Total Solids	Loss on Ignition *	Fixed Residue
1A	August	8	trace	.0037	23.00	none	none	20.00	290.00	31.60	258.40
2A	"	20	.0157	.0044	13.80	.002	none	20.00	271.60	24.50	247.10
3A	Sept.	5	.0016	.0076	20.80	none	none	12.80	284.00	27.00	257.00
4A	"	27	.0006	.0068	11.20	none	none	20.50	285.00	41.50	243.50
5A	Nov	29	.0149	.0060	5.40	none	none	20.50	270.00	28.00	242.00
1B	August	16	.0010	.0070	.45	none	trace	3.30	7.30	1.60	5.70
2B	"	19	.0010	.0017	.15	none	.008	3.80	6.70	1.20	5.50
1C	"	13	trace	.0047	.50	none	.120	11.70	15.80	3.30	12.50
2C	October	9	.0004	.0028	.40	none	.100	11.60	15.90	2.54	13.36
1D	August	19	trace	.0012	.60	trace	.150	12.00	17.00	4.00	13.00
1E	"	20	.0005	.0032	.55	trace	.150	5.30	7.60	2.00	5.60
1F	"	20	.0008	.0029	.40	none	none	3.40	5.70	1.00	4.70
1G	October	10	.0008	.0064	.40	none	.020	10.10	15.70	1.60	14.10
2G	"	30	.0004	.0065	.40	none	trace	10.20	15.00	1.60	13.40
1H	"	11	.0002	.0028	.30	none	none	11.50	60.40	6.60	54.40
2H	"	30	.0004	.0024	.40	none	trace	10.50	58.00	4.60	53.40

WELL WATER.

Thirty-one samples of well water were analyzed during the year. Twenty-one of them were marked contaminated, eight suspicious and two passable.

The above and previous results from analysis of water from about seven hundred wells in Newark, show that the water from the city well is very dangerous to health. This has been demonstrated many times by the records of epidemics, disease and death. Almost all intelligent people now recognize this, and only a few skeptics and the ignorant classes have any desire to use surface well water when such a good public supply is at hand. It is highly important that these people should be protected against themselves.

CITY WATER.

The monthly examinations of the city water have shown its uniformly good quality. Whatever complaint is heard about the water, almost invariably arises from its turbidity or color. Both of these defects will doubtless be remedied to a considerable extent when the new storage reservoir, now in process of construction, is completed. However, the perfect water supply, as now understood by sanitarians, can only be obtained by filtration.

The maximum and minimum figures for total solids corresponds very closely with those of last year.

TOTAL SOLIDS (GRAINS PER U. S. GALLON).

	1900.	1901.
Maximum	3.06	3.00
Minimum	1.96	1.93
Average	2.53	2.68

The analytical results for the year are given in the table.

ANALYSES OF NEWARK AQUEDUCT WATER

(PARTS PER 100,000)

Date 1901	Free Ammonia	Albu- minoid Ammonia	Chlor- ine	Nitrogen as Nitrates	Nitrogen as Nitrates	Tempor- ary Hardness	Total Solids	Loss on Ignition	Fixed Mineral Residue	Color	Tem- perature Degrees F
Jan 22	.0016	.0146	.18	None	.035	2.20	3.80	1.40	2.40	.30	36
Feb 20 ..	.0024	.0122	.20	"	.026	2.60	5.00	2.00	3.00	.33	35.5
March 30	.0075	.0133	.12	"	.015	1.20	3.30	1.50	1.80	.40	39
April 22	.0018	.0154	.28	"	.012	1.30	4.50	1.70	2.80	.28	48
May 20	.0024	.0146	.12	"	.012	2.00	5.00	2.00	3.00	.34	59
June 20	.0015	.0160	.15	"	.010	2.40	4.50	2.00	2.50	.25	68
July 20	.0010	.0141	.10	"	.020	2.60	4.30	2.25	2.05	.44	73
Aug 20	.0028	.0172	.12	"	.010	2.60	5.65	2.00	3.65	.33	73
Sept 21 ..	.0030	.0170	.12	"	.008	2.50	5.54	2.50	3.04	.33	66
Oct 21	.0016	.0180	.15	"	.008	2.30	4.40	1.80	2.60	.40	61
Nov 22	.0015	.0155	.15	"	.010	2.70	4.40	1.75	2.65	.25	45
Dec 20.	.0022	.0170	.18	"	.012	2.00	4.45	2.10	2.35	.20	36
Average.											
1901	.00252	.0154	.155	None	.0148	2.20	4.653	1.916	2.653	.32	53.5
1900	.00242	.0137	.181	Trace	.0142	2.092	4.433	1.991	2.442	.286	56
1899	.00226	.0128	.167	"	.0097	1.771	4.457	1.878	2.514	.305	45.8
1898	.0026	.0150	.142	"	.0129		4.42	2.05	2.37	.348	
1897	.0023	.0141	.133	"	.0112		4.12	1.99	2.13	.390	

BIRCH BEER.

The sale of birch beer has, during the summer months, become very popular. This article is now largely sold in the saloons and is even manufactured on a considerable scale by some of the brewers. Several samples were analyzed to ascertain if they contained alcohol, none was found except a mere trace, which probably had its origin in some of the flavoring extracts used in manufacture.

The composition is essentially carbonated water, flavor, e.g. coloring (caramel) and a syrup of either cane sugar or glucose and with or without the addition of saccharine, as the case may be.

MISCELLANEOUS EXAMINATIONS.

Under this head are included the examination of some canned bartlett pears, which were found of good quality; some canny peaches with a marshmallow center and a colored sugar coating, and a sample of suspected butter which proved to be oleomargarine. There were also several samples of butter which, although genuine, had been melted and worked over.

Very respectfully,

HERBERT B. BALDWIN,

Chemist.

[TABLE No. 1.]
BIRTHS REPORTED DURING YEAR 1901

COLOR.		SEX.		NATIVITY OF PARENTS.										NAME OF CHILD.		LEGITIMACY.		
White.	Colored.	Male.	Female.	Not Stated.	Native	Foreign.	Foreign Father only.	Foreign Mother only.	Nativity of Father only Stated.		Nativity of Mother only Stated.		Not Stated.	Stated.	Not Stated.	Legitimate.	Illegitimate.	Total.
5924	92	3175	2837	4	2439	2626	526	359	5	7	24	18	12	5077	939	5975	41	6016

19

STILL BIRTHS REPORTED.

SEX.			FATHER.			MOTHER.			COLOR.			
Male.	Female.	Not Stated.	Native.	Foreign	Not Stated.	Native.	Foreign.	Not Stated.	White.	Colored.	Not Stated.	Total.
175	146	3	145	157	22	149	156	19	310	12	2	324

[TABLE NO. II]
MARRIAGES REPORTED.

NATIVITY.

White		Colored	Native		Foreign	Not Stated		First Marriage		Second Marriage		Third Marriage		Fourth Marriage		Not Stated		Total
Male.	Female	Male.	Female.	Male.	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
2366	2366	75	75	1454	1504	983	932	4	5	2015	2022	294	154	22	12	1	1	2441

[TABLE No. III.]

NATIVITY OF DECEDENTS.

United States	3,208
Germany	567
Ireland	523
Italy	122
England	119
Russia	51
Austria	28
Scotland	26
Hungary	19
Switzerland	19
Poland	17
Canada	17
Sweden	12
France	10
Denmark	6
China	4
Bohemia	5
Romania	5
Holland	3
Belgium	1
Spain	1
Turkey	1
Bavaria	1
South America	1
Not Stated	40
<hr/> Total	<hr/> 4,806
Native Born	3,206
Foreign Born	1,560
Not Stated	40

[TABLE NO. IV.]

DEATHS IN INSTITUTIONS AND PUBLIC PLACES

St. Michael's Hospital .	286
City Hospital ..	216
St. Barnabas' Hospital .	87
Essex County Hospital for Insane	63
St. James' Hospital	55
Isolation Hospital	50
German Hospital ..	37
Babies' Hospital	31
Little Sisters of the Poor.	26
Alms House	22
Home for Incurables	4
Women's and Children's Hospital .	4
House of the Good Shepherd .	4
Home for Crippled Children	3
Palace Hotel	3
Eye and Ear Infirmary	2
Baptist Home for Aged	2
Old Burying Ground .	1
North End Club	1
Home for Aged Women	1
Monastery St. Dominick ..	1
Mt. Pleasant Cemetery	1
Fairmount Cemetery .	1
Plank Road Bridge .	1
St. Peter's Orphan Asylum	1
Ambulance	1
Forest Hill Railroad Station.	1
Arlington Hotel	1
Total .	1,037

[TABLES NOS. V AND VI]

WELLS RECORDED.

LOCATION OF WELLS.	SAMPLE No.	KIND AND DEPTH.	FOR MAN'G OR DOMESTIC PURPOSES	PRIVY VAULTS AND CESSPOOLS WITHIN			RESULT OF ANALYSIS.
				30 FEET.	50 FEET	100 FEET	
Bleecker St., 81 and 83	792	Bucket 50 ft.	Domestic	.....	.....	.....	Contaminated
Bergen St., 12	793	Bucket ..	"	.....	.....	.....	Badly contaminated.
Cory St. 3, and Springfield Av., 615 .	794	Pump, 30 ft....	"	1 P. V. ....	.....	.....	" "
Cory St., 11 .	795	Pump, 30 ft	"	1 P. V	.....	.....	Very suspicious.
So., 18th St., 665 to 685	796	Bucket, 35 ft	"	1 P. V	.....	.....	Contaminated
N. J. R. R. Av., 504 ...	797	Bucket, 16 ft.	"	.....	1 P. V	.....	Badly contaminated.
So. 20th St. and 14th Av	798	Artesian, 293 ft.	"	.....	.....	1 P. V & 1 C P	Suspicious.
Tichenor St., 153 .	799	Pump, 13 ft	"	1 P. V. & 1 C. P	1 P. V	.....	Contaminated
Lafayette St., 75.....	800	Bucket, 17 ft	"	.....	2 P. V	.....	"
Freeman St., 35 and 37.	801	Bucket, 50 ft	"	2 C. P	.....	2 P. V	Very badly contaminated
Freeman St., 33.....	802	Bucket, 60 ft	"	.....	1 C. P	1 P. V.	Badly contaminated.
Washington St., 163 ...	803	Artesian, 342 ft.	"	.....	.....	.....	Passable.
Adams St., 50	804	Pump 16 ft	"	1 P. V	.....	.....	Very badly contaminated
Adams St., 84	805	Pump, 15 ft	"	.....	.....	.....	" "
Congress St., 24 and 26	806	Bucket, 23 ft ..	"	2 C. P	.....	2 P. V.....	Suspicious.
Hoyt St., 74	807	Cistern.....	"	.....	.....	.....	Contaminated
Cabinet St., 35	808	Bucket, 7 ft....	"	.....	2 P. V	.....	"
South St., 122	809	Bucket .....	"	.....	.....	2 P. V.....	Suspicious.
South St., 140	810	Pump.....	"	.....	1 P. V.	.....	Badly contaminated.
Parker St., 100 ...	811	Cistern.....	"	.....	.....	.....	Passable
Pacific St., 186 ...	812	Bucket .....	"	.....	.....	1 P. V	Badly contaminated
So. 11th St., 400 .	813	Cistern .....	"	.....	1 P. V	.....	"
Goble St., 37	814	Bucket, 18 ft.	"	.....	.....	1 P. V	Contaminated
Washington Av., 67 & 69	815	Bucket, 70 ft	"	2 P. V	.....	.....	"
Summer Av., 800.	816	Bucket .....	"	.....	.....	2 P. V	Suspicious
Patterson St., 33.....	817	Pump, 20 ft	"	1 P. V	.....	.....	Contaminated
Clifford St., 205 ..	818	Pump, 28 ft	"	1 C. P	1 P. V	.....	Passable
Morris Av., 278 to 283	819	Artesian, 200 ft.	"	.....	.....	.....	Contaminated.
Congress St., 24 and 26..	806 R	Bucket, 23 ft	"	2 C. P	.....	2 P. V	Very badly contaminated

THE WEATHER IN NEWARK IN 1901.

IS THE WEATHER GROWING WARMER, OR ARE MODERN
THERMOMETERS MORE ACCURATE? A DECADE OF THE
LOCAL OBSERVATORY, CONTRASTED WITH THE PRE-
VIOUS HALF CENTURY.

*"Si numeres anno soles et nubila toto,
Invenies nitidum saepius isse diem."*

Thus runs a coplet in Ovid, and a free translation renders it:

If cloud and sunshine you mark thro' the year,
You'll find foul days less frequent than fair.

Seasons come and go, but the weather is always with us, and, as the fool in Lear puts it.

*"He that has and a little tiny wit,
With hey, ho, the wind and the rain,
Must make content with his fortunes fit,
For the rain it raineth every day."*

A stormy holiday season is a sore trial to all. The youth of Newark has much to complain of—no skating, no sledding, and the ground too moist for any outdoor sport. Christmas in 1901, on the Weather Man's record sheet, goes down as "cloudy and threatening." Two rainy days fol-

lowed. The entries for the preceding five years were as follows: 1900, beautiful, mild, with 90 per cent sunshine; 1899, fine 90 per cent sunshine, skating in suburbs; 1898, clear, with skating; 1897, fine, cold, the Passaic frozen over, except in the channel; 1896, an ideal Christmas, fine sleighing, good skating and not a cloud in the sky.

The story of weather phenomena for the year now rapidly drawing to its close, may be read in the tables which are appended. The local observatory, at the High School is just finishing its tenth year of its existence. Prior to 1892 records were made within the city's boundaries by the late ex-Judge Record, for many years in charge of the New Jersey Historical Society Library. He continued the work inaugurated by William A. Whitehead. A continuous record thus extends as far back as the year 1843.

The tables will show the comparisons of the year 1901, with the averages of the previous ten years' memoranda, also with the averages of the half century record of the Messrs. River and Whitehead. The columns headed "Averages" give results obtained from the reading of the thermometer at 7 A. M., 2 P. M. and 9 P. M. each day; "Mean temp" columns contain the averages of the daily maximum and minimum readings. These latter results, in the long run, will differ only slightly from the former, and are now accepted by the U. S. Weather Bureau from all its volunteer observers, the number of whom has materially increased of late years. Ever since reduction from three daily readings to one was inaugurated,

TABLE NO. 1.
Temperatures of 1901.

	Average Temper- ature - deg.	Mean Temper- ature - deg.	Maxi- mum deg.	Mini- mum deg.	No of times above 90 deg.	No of times below 32 deg.
Jan., ..	30.1	29.1	57	0	0	32
Feb.	24.5	23.8	44	10	0	28
March . . .	37.5	37.2	58	9	0	15
April . . .	48.1	48	84	31	0	1
May	57.2	57.7	86	38	0	0
June	70.1	70.2	98.5	45	6	0
July	76.5	76.6	102.5	54	10	0
Aug.	72.9	72.1	91	56	1	0
Sept.	67.5	65.8	90	41	1	0
Oct.	53.7	54.3	77	34	0	0
Nov.	37.7	37.7	60	17	0	13
Dec.	30.9*	30.4	62	10	0	18
Ave.	50.5	50.2				

*To December 28.

Highest temperature of year 102.5 degrees, on July 2, and previous records surpassed

Lowest—0 degree, on January 20.

Range for the year—102.5 degrees.

TABLE NO. 2.
Comparative Temperatures.

	Average Temperatures.			Maximum Temperature, 1843-1901, deg.	Minimum Temperature 1843-1901, deg.
	Period, 1843-1892 deg.	Period, 1892-1901 deg.	Year 1901, deg.		
Jan. . . .	29.1	30.9	30.9	65 (1876)	13(1866)
Feb. . . .	30.5	29.2	24.5	68 (1874)	9 (1899)
March . . .	37.8	34.2	37.5	77 (1851)	2 (1868)
April	48.7	51.8	48.1	93 (1896)	17(1857)
May	59.2	60.9	57.2	97 (1895)	31(1861)
June	68.7	70.6	70.1	98.5(1901)	38(1843)
July	74.2	74.9	76.5	102.5(1901)	46(1845)
Aug.	71.8	73.7	72.9	99 (1854)	47(1854)
Sept.	64.5	66.9	67.5	100.5 (1876)	34(2)
Oct.	53.4	55.3	53.7	89 (1897)	22(1845)
Nov.	42.8	43.8	37.7	74 (1896)	8(1875)
Dec.	32.8	33.9	30.9	68 (1848)	6(1880)
Ave	50.9	52.5	50.5		

A study of table No. 2 reveals several important facts. The decade now closing shows an unusual excess of heat, notwithstanding the fact that its last year (1901) is below the average of the half-century. This excess of temperature is shared by all the months save February, which month has assumed the position of the coldest month of the year. It maintained that place in the present year, giving the lowest monthly average on record, so far as can be determined.

The table also shows that three new maxima records were established—first, the highest temperature in the history of the city, and secondly, the monthly maxima of June and July. Again, a close examination of the figures shows that within ten years six new temperatures have crept into the monthly maximum column, and but one into the minimum column.

Before, however, the reader indulges in any generalizations as to important climatic changes in this vicinity, it will be well for him to bear in mind the increasing accuracy of the instruments now in use, and the stricter observance on the part of weather department officials of all the minute details attendant upon the manner of taking observations and methods of exposure of the apparatus.

TABLE 3.

Arrangement of the months in the order of their average temperatures.

Record of	1843-1892	1892-1901	1901.
July	74	75	76.5
August	72	74	73
June	69	71	70
September	65	67	67.5
May	59	61	57
October	53	55	54
April	49	52	48
November	43	44	38
March	38	38	37.5
December	33	34	31
January	29	31	30
February	30	29	24.5

The next table presents statistics of precipitation in which are reckoned both rainfall and melted snow.

TABLE NO. 4.
Rainfall Records in Inches.

	Period 1848 1892	Period 1892-1901	For 1901	Greatest in 24 hrs. 1901
January	3.65	3.49	1.61	0.84
February	3.60	4.11	0.69	0.36
March	3.81	4.04	4.70	2.22
April	3.53	3.51	6.56	1.36
May	3.97	4.52	5.96	1.36
June	3.57	3.07	1.07	0.50
July	4.28	6.18	4.89	1.02
August	5.07	5.23	11.94	4.37
September	3.75	2.96	1.63	0.48
October	3.58	3.55	2.14	1.08
November	3.63	4.06	1.61	1.14
December	3.63	2.97	3.91*	1.12
Annual	46.25	47.69	46.71	

*To December 28.

TABLE NO. 5.
The months, in order of precipitation:

1843 1892.	1892-1901	1901.
1 August	1 July	1 August
2 July	2 August	2 April
3 May	3 May	3 May
4 March	4 February	4 July
5 September	5 November	5 March
6 January.	6 March	6 December
7 November.	7 October	7 October.
8 December.	8 April	8 September
9 February.	9 January	9 January
10 October.	10 June.	10 November.
11 June	11 December.	11 June
12 April	12 September	12 February

A mere casual glance at these figures brings out no interesting fact. Still, if the column for the past year be left out of consideration, we discover that there is some regularity in the distribution of moisture throughout the year. April and September are usually dry months, notwithstanding popular notions acquired in the kindergarten days of education, with their songs concerning April showers, etc. The wet months are August and July. This is due to the heavy downpours attendant upon the thunderstorms that occur in the "dog days."

TABLE NO. 6.

Character of the day in each month of 1901:

	Clear.	Partly Cloudy or Fair.	Cloudy.	With Precipitation. Measurable Quantity	Total Snow Fall In.
January.....	6	16	9	9	2 65
February.....	12	14	2	6	7 00
March.....	7	9	15	14	...
April.....	6	6	19	12	...
May.....	8	7	16	19	...
June.....	18	6	6	6	...
July.....	6	11	14	20	...
August.....	10	12	9	13	...
September.....	18	7	5	11	...
October.....	17	11	3	7	...
November.....	11	13	6	9	1 00
December.....	8	12	8	7	0.30
Total.....	127	128	112	133	10 95

The usual ratio of rainy days to the whole number of days in the year is not far off. The ratio is a trifle greater this year. The snowfall for the year is unusually small. It is less than one-half that of 1900. The average snow per year is nearly three feet. There has been no good skating. Ardent sportsmen and a few amateurs did appear in the usual accents with their elegant 'turn-outs' one or three days early in the year. There were four days of skating on Branch Brook in January. There might, could and should, have been a few more, as the snow was allowed to lie several days after the skating season had opened. In December the same sheet of water, which is always the latest, within Newark's limits, to freeze, did not congeal sufficiently till the 22d, and the skaters have enjoyed only two days sport thereon. In the environs, however, skating has been uninterrupted for several weeks. As to miscellaneous phenomena, there is little of extraordinary interest to record. January missed its usual thaw and the attendant fogs were gladly dispensed with. There were snow flurries in February, on Lincoln's Birthday, also on Washington's Birthday. The light snows of the month came to stay owing to the exceptional cold and the casting in the city streets was at its best for two weeks or more. There was a severe wind storm in the middle of the month, extending over three days. March had a severe cold wave in its first week, and in its last a four days' gale. Easter Day was April 7. It was all but sunless, and there were showers in the morning. Wild flowers in our gathering fields began to appear about the 27th and their blossoms were conspicuous in city gardens on the 30th. May was wet and windy. Memorial Day was dismal as to the weather conditions. There had been a heavy rain during the previous twenty-four hours, and the sun showed itself

for a few minutes only late in the afternoon. The closing week of June will never be forgotten by the denizens of the town, young or old. The 22d was hot and sultry—highest temperature, 86 degrees, and average humidity 81 per cent. The thermometer on the 23d recorded 188, which temperature was reached on the 24th and again on the 25th, 95 degrees was the maximum on the 26th, 94 on the 27th, 95 on the 28th, 90 on the 29th, 98.5 on the 30th. And the heated season extended into July. The first saw the highest record reached, 102 degrees in the shade, and the second saw it surpassed, with a record (which all good men hope will never again be equalled or even approached in this region of humidity and clothes) of 102.5 degrees. The third was a trifle "cooler," having only 95 degrees for its maximum, but a humidity average of 81 per cent, which made its heat less tolerable than that of the preceding day. The 4th had a maximum of 84 degrees, and humidity of 81 per cent; the 5th, a temperature of 91.5 degrees, and humidity of 86 per cent. Cooler weather came finally on the 8th.

The 90 degree mark was reached again and passed on the 18th, 21st, 22d, 24th, 29th and 30th. The month's humidity averages nearly 80 per cent. There were eighteen rainy days distributed in the heated term. The French have the proverb: "Better see a mad dog than a hot sun in January!" It remains for some local savant or wiseacre to devise an expression that will suit such conditions as were experienced at this time, when we had sun, and moisture, and dog days together.

August was marked by very severe thunder storms. Two of these were accompanied by excessive downpours. Large sections of the city were flooded on both occasions. The storm of the 6th and 7th precipitated 4.48 inches of

rain—that of the 23d and 24th 4.53 inches. September was an ideal month with eighteen clear, 88 days, little rain and moderate breezes. October had its first frost as early as the 5th. The month was blustery. Most of its rain (2.14 inches) fell in one storm—that of the 13th and 14th, 1.89 inches.

The drought continued during November. Ice appeared in exposed places on the 11th of this month. Branch Brook was frozen over on the 21st, and skating begun in smaller ponds on the 24th. Thanksgiving Day was clear and cold. The first snow of the Winter came on the day following, and sleds were seen in the city streets, although there was only one inch of the "fleece of white" to encourage the coasters. December has been cold and wet. The city has escaped the big snows that fell to the north, in the State and elsewhere, but only by a margin of a few degrees. At the time of this writing, there are indications of additional precipitation. As the mercury is hovering about the freezing point, we may confidently expect a visitation of those flakes of the feathery white whose presence is so generally desired during our Winter holidays.

GEORGE C. SONN

AREA OF CITY AND EXTENT OF PUBLIC IMPROVEMENTS.

Census Population, 1890	181,830
Estimated Population, 1900	250,000
Total area of the City's square miles.....	22
Built up square miles	14
Meadow land, square miles.....	6½
Length of River and Bay front, miles.....	10 5-10
Number of miles of granite block.....	37.24
" " " trap block	12.29
" " " telford pavement	10.80
" " " cobble stone pavement	12.75
" " " asphalt pavement	47.25
" " " brick pavement	4.44
Total length of paved streets.....	124.54
Number of miles of unpaved streets.....	94.12
Length of Electric Railways, miles.....	70.00
Length of Steam Railways, miles.....	28.38
Length of brick sewers, miles.....	64.94
Length of pipe sewers, miles.....	96.55
Length of private sewers, miles.....	23
Total length of sewers, miles.....	184.49
Total number of sewer basins.....	2,800
Length of water mains, miles.....	229¼
Average daily consumption of water during the month, gallons	25,000,000
Capacity of water supplied per day, gallons.....	50,000,000
Number of buildings	29,736

PUBLIC PARKS.

Military, acres	6.45
Washington, acres	3.40
Lincoln, acres	4.37

NEW PARKS.

Branch Brook, acres	280
East Side, acres	13
West Side, acres	23

Allow me in conclusion, to express my sincere thanks to the members of the Board of Health, individually, for their kind co-operation and many courtesies extended to me in the performance of my duties.

I wish also to thank the employees in general for the willing and efficient manner in which they have performed their duties.

Very respectfully,

DAVID D. CHANDLER,
Health Officer.



